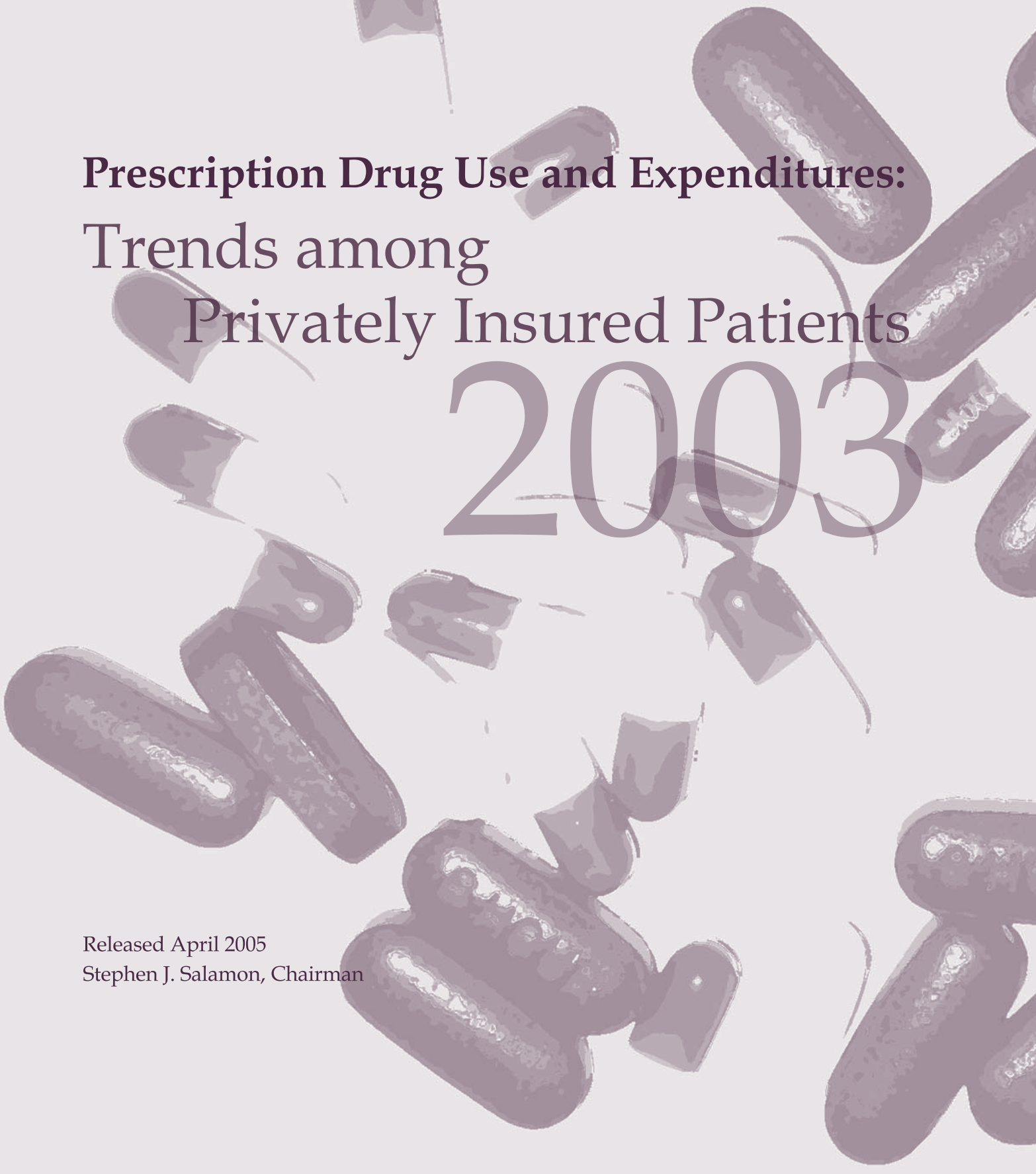
MARYLAND HEALTH CARE COMMISSION

Prescription Drug Use and Expenditures:

Trends among Privately Insured Patients 2003



Released April 2005

Stephen J. Salamon, Chairman

MARYLAND HEALTH CARE COMMISSION

The Maryland Health Care Commission (MHCC) is a public, regulatory commission established in 1999 by the Maryland General Assembly by merging the Health Care Access and Cost Commission and the Maryland Health Resources Planning Commission. The MHCC mission is to plan for health system needs, promote informed decision-making, increase accountability, and improve access in a rapidly changing health care environment by providing timely and accurate information on availibility, cost, and quality of services to policy makers, purchasers, providers and the public. The Commission is administratively located within the Maryland Department of Health and Mental Hygiene, and is composed of 13 members appointed by the Governor, with advice and consent of the Senate, for a term of four years.

This report, ***Prescription Drug Use and Expenditures: Trends among Privately Insured Patients, 2003*** provides information about prescription drug utilization and expenditures by Maryland's privately insured, nonelderly residents in 2003. Market trends and changes in prescription drug use and spending occurring between 2002 and 2003 are also presented. Information provided in this report is based on services and payments captured in the Prescription Drug Component of the Maryland Medical Care Data Base (MCDB). The Prescription Drug Component is based on prescription drug claims paid by most private insurers in Maryland. The information in this report will serve as a baseline that may be used in tracking trends in prescription drug use in the State of Maryland. The report also tracks use of several drug classes that have been the subject of safety concerns, specifically COX-2 inhibitors and Selective Serotonin Reuptake Inhibitors (SSRIs). Our analysis of SSRIs is limited to use among children, as the recent Food and Drug Administration public health advisory raised concerns about use of all depressants in children.

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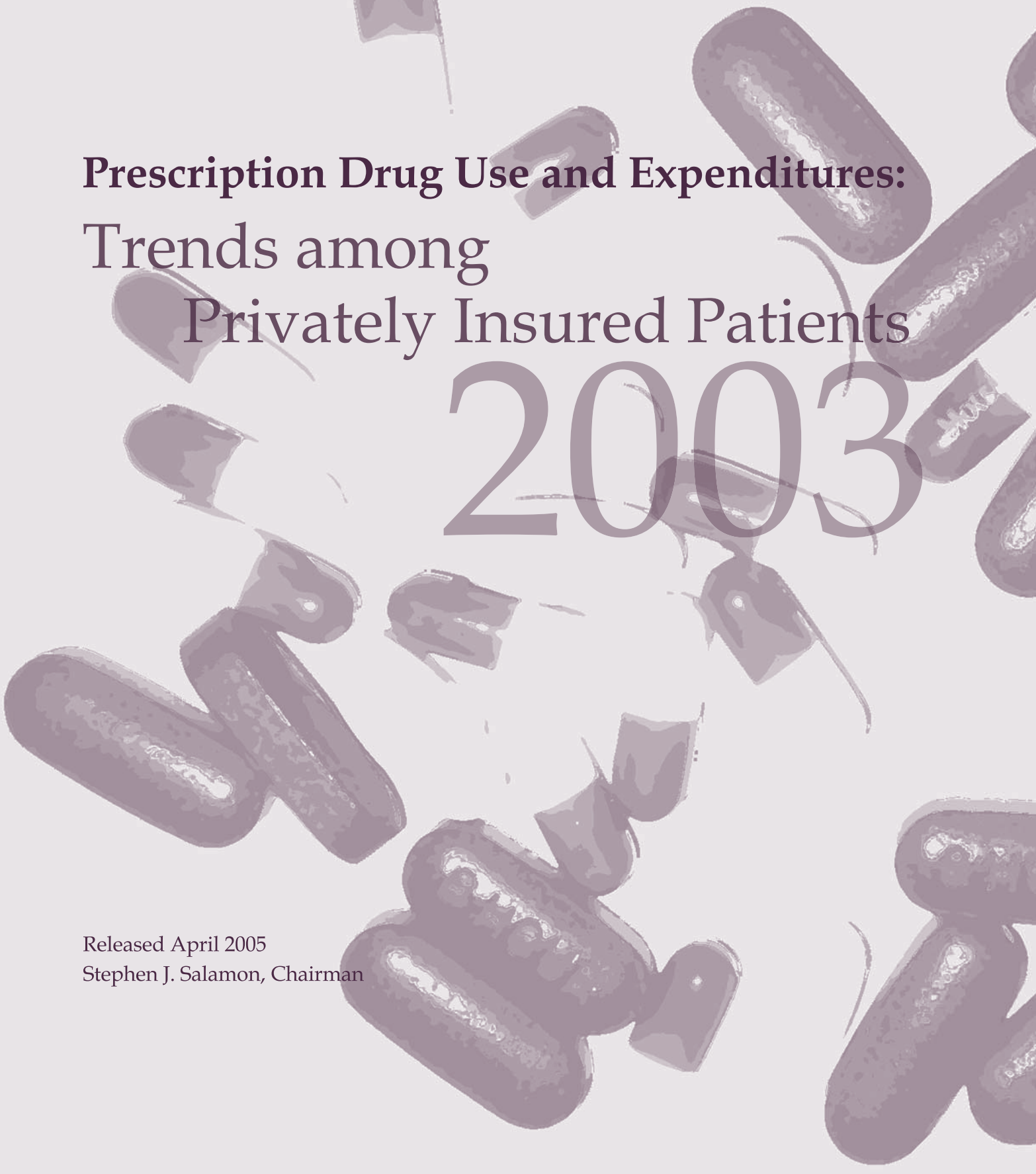

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Acknowledgements

This report would not have been possible without the assistance of private health insurance companies and health maintenance organizations (HMOs) that provided information (identified in Appendix A). The Maryland Health Care Commission recognizes that in providing data the contributors dedicated considerable staff and computer resources. The Commission is most grateful for the help of the organizations that submitted information and recognizes the increased attention that many individuals in these organizations have given to the data collection requirements this year. The many individuals who answered questions and reviewed results deserve special thanks.

The development of the Prescription Drug Component of the Medical Care Data Base (MCDB) and the preparation of this report were conducted under contract with Social & Scientific Systems (SSS) of Silver Spring, Maryland, with assistance from Solutions Technology, Incorporated (STI), of Lanham, Maryland (a Minority Business Enterprise). The overall effort at SSS was under the direction of Ms. Sophie Nemirovsky.
Dr. Claudia Schur and Dr. Janet Sutton of NORC, a research organization affiliated with the University of Chicago, in Bethesda, Maryland, are the principal authors of this drug expenditure report. They were assisted by Ms. Bernadette Abeywickrama at NORC. A programming team at SSS, consisting of Mr. Adrien Ndikumwami (group leader), Ms. Laurie Hamilton, Mr. John May, and Mr. Po-Lun Chou edited the payer data submissions, organized the MCDB, and completed the numerous data analyses included in this report. Ms. Priscilla Charles and her staff at STI provided data collection and processing support. Mr. Robert Hardy edited the report and Ms. Lauralynn Clay assisted in the preparation of the report.

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Executive Summary

In 2003, prescription drug spending was $3.5 billion in Maryland, or about 13 percent of total health care spending.[1] Growth in spending on prescription drugs in Maryland has begun to decelerate, as it has nationwide, with recent double-digit increases settling down to 9 percent between 2002 and 2003. Little is known about factors that have driven drug increases or whether recent slowing will continue. Recent advances in the Medical Care Data Base make it possible to analyze in greater detail the spending trends among the privately insured population under age 65. The rapid growth in prescription drug spending for the privately insured is of concern to the Maryland Health Care Commission (MHCC), as making health care more affordable is a central mission of the organization. Rapid growth in any health care sector, unless offset by slower spending elsewhere, inevitably will lead to higher health care premiums in the future.

Prescription drug spending on behalf of privately insured Maryland residents under age 65 increased by about 8 percent in 2003. Increased spending for the typical (median) insured user and prescription was modest: 5 percent and 4 percent, respectively. The number of users was stable to trending downward in 2003, a finding that is consistent with other recent MHCC reports that show health care utilization via private coverage declining. Branded drugs accounted for about 55 percent of the prescriptions and 83 percent of total spending in 2003. The average payment for a branded drug was $106 in 2003, up by more than 31 percent from the $81 average payment in 2001, while the average payment for a generic drug increased by 39 percent, from $18 to $25 during the same period.[2]

Out-of pocket spending, both per user (13 percent) and per prescription (11 percent), outpaced total spending growth. As a result, the cost of prescriptions tilted more to consumers. In 2002, 34 percent of median expenditures per user were paid out of pocket, compared to 36 percent in 2003. Increases in cost sharing are consistent with recent benefit design changes that increased enrollee cost sharing levels for prescription drugs.

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[1] Maryland Health Care Commission (MHCC). *State Health Care Expenditures: Experience from 2003*. Baltimore, MD: MHCC, January 2005. http://www.mhcc.state.md.us/health_care_expenditures/shea03/shea2003rpt.pdf.
[2] Maryland Health Care Commission (MHCC). *Spotlight on Maryland, "Increases in Patient Co-pays Outpaced Overall Drug Spending in 2001"*. Baltimore MD: MHCC, September 2003. http://www.mhcc.state.md.us/spotlight/drug0903.pdf.

Like many services, drug spending is characterized by a relatively small number of users with high expenditures and a large number of users with small expenditures. In 2003, the highest 20 percent of patients accounted for about 75 percent of costs. The bottom 50 percent accounted for only about 6 percent of spending. Age and gender contributed to variations in drug use among the nonelderly privately insured. Median drug spending for young adults age 18 to 34, by gender, was about one-quarter for women ($203 versus $797) and less than 15 percent for men ($102 versus $743) of the comparable median in older adults age 55-64. Women have higher utilization in young adulthood, but the gap narrows dramatically after age 55.

The out-of-pocket share of total payments declines as per-patient spending increases. At the 50th percentile of annual payments, the patient's payment would cover 36 percent of spending out of pocket, at the 75th percentile the patient share is 30 percent, and at the 95th percentile a patient would pay approximately 23 percent. Most insurers do not establish enrollee maximum liability levels on the drug benefit, so changes in cost sharing are attributable to the conditions treated and the medications prescribed. The average out-of-pocket share for branded drugs is about one-half of that for generic drugs due to fixed co-payments that are tied to the type of drug (generic, preferred branded, other branded) but do not increase with price. The increasing share borne by the payer as utilization grows is consistent with a pattern of treatment in which generic drugs are used more frequently to treat acute conditions such as infections and musculoskeletal conditions, but branded drugs are used to treat the chronic or long-term acute conditions that are common among users with high expenditures.

A patient's prescription drug use varied by type of insurance coverage. Differences in the typical level of spending were smaller than the differences in share paid by the patient. Spending at the 50th percentile varied from $191 in the individual market to $253 for public employees. Individuals insured through the individual market paid the highest share (66 percent), and those covered through the large-group market and public employee programs paid the lowest share (33 percent). Patients covered by the Comprehensive Standard Health Benefit Plan (CSHBP), the small-group product in the State, paid approximately 43 percent out of pocket. With the exception of persons with small-group coverage, the percentage of expenditures paid out of pocket increased slightly between 2002 and 2003.

The Maryland prescription drug market continues to be dominated by retail sales. In 2003, about 3 percent of prescriptions were dispensed by a mail-order pharmacy. These prescriptions accounted for about 8 percent of total payments, owing to the fact that most mail order is for a 90-day maintenance supply. Nationally, use of mail order is higher because insurance carriers can require enrollees to obtain maintenance drugs via

mail order. In Maryland and several other States, carriers must impose uniform cost-sharing arrangements on prescriptions filled at community and mail-order pharmacies. Between 2002 and 2003, the growth in the number of prescriptions filled by mail order increased at a much faster rate than the number filled by retail pharmacies (17 percent versus 2 percent) and payments to mail-order pharmacies grew even faster (30 percent compared to 10 percent).

Approximately 22 percent of nonelderly adults represented in the database were treated with a non-steroidal anti-inflammatory drug (NSAID) in 2003, and of these, 20 percent were prescribed a COX-2 inhibitor. Spending for COX-2 inhibitors was substantially higher than for treatment with other NSAIDs, due to higher daily expenditures ($3.26 versus $1.00, in part associated with more brand name use) as well as longer periods of use (103 days on average versus 36 days).

Approximately 3 percent of children used an antidepressant in 2003; of these, roughly two-thirds used a Selective Serotonin Reuptake Inhibitor (SSRI). Between 2001 and 2003, the number of children using SSRIs increased by 8 percent for those less than 10 years of age and by 26 percent for those ages 10 to 17. In the younger age group, the number using other antidepressants fell during the two-year period but increased by 14 percent for the adolescent group. About 60 percent of children using an antidepressant were prescribed more than one type of drug during the year.

1. Introduction

From 1993 through 2003, average annual growth in prescription drug spending nationally exceeded 10 percent.[3] Factors driving increased spending include increasing per-person use; the replacement of older, less-expensive drugs with newer, higher-priced ones; and growth in the price of existing drugs.[4] After peaking in 1999, a modest slowdown in rates of growth has occurred. Nonetheless, retail sales of prescription drugs increased by nearly 11 percent in 2003 and growth is still outpacing other components of health spending.[5]

In recent years, as measured by retail sales, per-capita spending on prescription drugs as well as growth in spending have tended to be higher in Maryland than for the nation as a whole.[6] In 2003, prescription drug spending was $3.5 billion in Maryland, or about 13 percent of total health care spending.[7] Growth in spending on prescription drugs in Maryland has begun to decelerate as it has nationwide, with recent double-digit increases settling down to 9 percent annual growth between 2002 and 2003.[8]

While prescription drugs accounted for only about 11 percent of national health care spending in 2003 (and 13 percent in Maryland), growth in drug spending has garnered a disproportionate level of national attention due to a number of issues, including the recent passage of the Medicare outpatient drug benefit, consumer and State efforts to re-import prescription drugs, and several controversial issues before the Food and Drug Administration (FDA) related to drug recalls and the addition of warning labels.

This report provides information about prescription drug utilization and expenditures by Maryland's privately insured, nonelderly residents in 2003. Market trends and changes in prescription drug utilization and spending occurring between 2002 and 2003 are also presented. Among the areas discussed in this report are the following:

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[3] Smith, C, Cowan, C, Sensenig, A, Catlin, A, and the Health Accounts Team, "Health Spending Growth Slows in 2003," *Health Affairs*, 2005; 24(1):185-194.
[4] Kaiser Family Foundation, *Prescription Drug Trends*. http://www.kff.org/rxdrugs/loader.cfm?url=/commonspot/security/getfile.cfm&PageID=48305 (Accessed 3/5/05).
[5] http://www.cms.hhs.gov/statistics/nhe/historical/highlights.asp and http://www.cms.hhs.gov/statistics/nhe/historical/chart.asp (Accessed 3/5/05).
[6] Maryland Health Care Commission (MHCC). *Spotlight on Maryland, "Rise in Prescription Drug Spending Continues But Growth Rate is Slower."* Baltimore, MD: MHCC, July 2004. http://www.mhcc.state.md.us/spotlight/drug0704.pdf (Accessed 3/5/05).
[7] Maryland Health Care Commission (MHCC). *State Health Care Expenditures: Experience from 2003*. Baltimore, MD: MHCC, January 2005. http://www.mhcc.state.md.us/health_care_expenditures/shea03/shea2003rpt.pdf. (Accessed 3/21/05).
[8] *Ibid.*

- Number of prescriptions per user
- Total expenditures per user and per prescription
- Consumer out-of-pocket spending per user and per prescription
- Prescription drug spending by age and gender
- Prescription drug spending by coverage type
- Use of mail-order pharmacy
- Use of branded and generic drugs

The data in this report are expected to serve as a baseline that may be used in tracking trends in prescription drug use in the State of Maryland. Given recent concerns about the safety of certain pharmaceuticals — specifically COX-2 inhibitors and, among children, antidepressants — data are also presented to track trends in the use of these particular drugs.

TECHNICAL BACKGROUND: SUMMARY OF DATA AND CAVEATS FOR THIS REPORT

A basic mission of the MHCC is the dissemination of information to monitor the Maryland health care market. In accordance with this mission, MHCC developed and currently maintains a Medical Care Data Base (MCDB) that includes insurance claim records of noninstitutional and professional services rendered by physicians and nonphysician health care professionals to patients who live in Maryland. In recent years, this database has been expanded to include information on insured prescription drug services, allowing analysis of spending trends and patterns of prescription drug use among privately insured Maryland residents under age 65.

Tables and figures in this report are based on services and payments captured in the Prescription Drug Component of the MCDB. The Prescription Drug Component is based on a subset of data found on insurance claims paid by most private insurers in Maryland. Insurance companies and HMOs meeting certain criteria — namely, that they are licensed in Maryland and collect more than $1 million in health insurance premiums — are required to submit information to MHCC under the Code of Maryland Regulations (COMAR) 10.25.06. For calendar year 2003, the Commission received data from all major health insurance companies.

Interpreting the results of this report requires an understanding of the limitations of the database and how it differs from other data collected and analyzed by the Commission. First, the database comprises prescription drug claims from private insurers. Thus, the database has no information on prescription drug use for persons who are uninsured, those who are insured but do not have drug coverage, Medicaid enrollees, and Medicare beneficiaries without private supplemental drug coverage. Because a substantial proportion of Medicare beneficiaries have no private supplemental drug coverage, the elderly population (persons over age 65), are excluded from these analyses.

Perhaps more importantly, there are no data available on enrollment in plans that provide prescription drug coverage, information that could serve as a denominator in these analyses. For this reason, estimates presented in this report are based on users: persons with at least one prescription drug claim filed during the year. Because these estimates are derived using data on prescription drug users and exclude individuals with private drug coverage who had no prescription drug use in a given year, many estimates will likely be higher than estimates from other sources that use enrollees as the denominator. In addition to omitting covered persons without drug use, the database is limited to persons covered by drug contracts with large Maryland insurers (e.g., if an employer, such as the State of Maryland, contracts directly with a pharmacy benefit manager for drug coverage, then use is not included).

In terms of the quantities presented in this report, each drug claim record is counted as a prescription regardless of the number of days supplied or the drug strength or dosage. In specific analyses, we control for number of days supplied in order to account for differences in the cost of the prescription. Total expenditures include payments from the insurer and patient, including any deductible and coinsurance or copayment amounts reported on the claims data. Expenditures cited in this report reflect prices before rebates. Because pharmacy benefit managers are better able to negotiate price and other concessions with drug manufacturers, pricing differences between mail-order and retail pharmacies may be greater than reflected in this report.

2. Drug Utilization and Spending, 2002-2003

In this section of the report, patterns of prescription drug utilization and spending for 2003 are described for different subgroups in the population and for different segments of the drug market. Information is presented on how much the typical privately insured individual spends on prescription drugs and the amount paid, on average, by the consumer versus that paid by the insurer. Data are presented on how this amount varies by age, gender, and type of coverage. In addition, the distribution or range of spending is discussed.

With respect to the market for prescription drugs, the proportion of both prescriptions and expenditures accounted for by mail-order pharmacies are compared with the share of retail pharmacies. The distribution of prescriptions by generics versus brand-name drugs and associated expenditures are also examined. Changes between 2002 and 2003 in both of these dimensions are presented.

How Much Is Spent on Prescription Drugs

In 2003, the median expenditure[9] on prescription drugs for nonelderly, privately insured Maryland residents with some prescription drug use was $204, meaning that half of these persons spent more than that amount and half spent less (Table 2-1). This amount includes the patient out-of-pocket payment as well as that paid or reimbursed by the insurer. There was a considerable range in use across the population. The bottom quarter of prescription drug users had drug expenditures of less than $62 annually, whereas the top quarter had expenditures of $650 or more (data not shown). The median proportion paid out of pocket by consumers was 36 percent, or $73, with the remainder paid by insurers. On a per-prescription basis (rather than per person), median spending was $41 and median patient liability was $15. In aggregate, however, only 24 percent of prescription drug spending was paid out of pocket (data not shown).

Looking at changes between 2002 and 2003, the largest increases were in out-of-pocket spending, both per user (13 percent) and per prescription (11 percent). In 2002, 34

[9] We present medians rather than means because there are a large number of users with very small expenditures and a small number with very high expenditures so that the distribution of spending is heavily skewed. This type of distribution is evidenced by the large discrepancy between the mean and the median annual expenditure ($664 versus $204). The distribution of spending is discussed in more depth further on in the report.

percent of median expenditures per user were paid out of pocket compared to 36 percent in 2003 (calculated from data in Table 2-1.) This increase in cost sharing is not surprising given the body of evidence that indicates insurers are raising beneficiaries' cost-sharing levels in order to contain prescription drug costs. Increases in total per-user and per-prescription spending were modest: 5 percent and 4 percent, respectively. No change in the typical number of prescriptions was noted; in both 2002 and 2003, the median annual number of prescriptions per user was five.

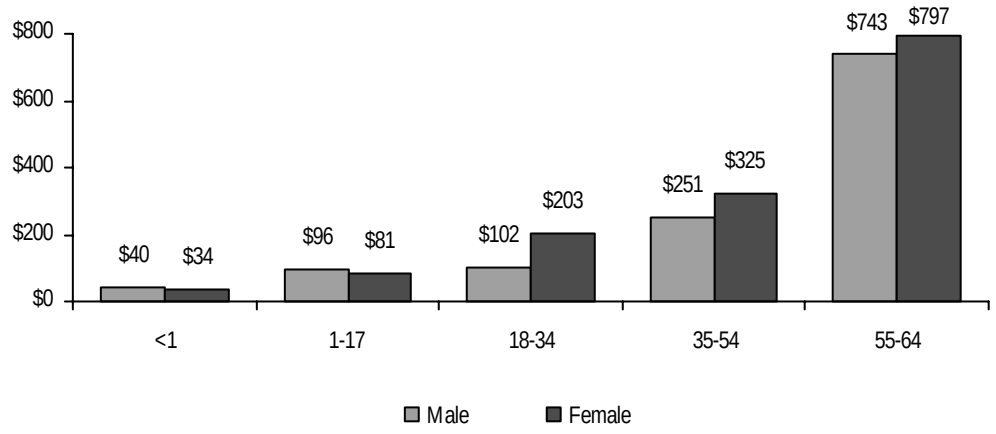
Table 2-1: Median Prescription Drug Spending and Use and Percent Change, 2002-2003

	2002	2003	CHANGE (%)
Per User			
Total Spending	$194	$204	5%
Out-of-Pocket Costs	65	73	13
Number of Prescriptions	5	5	-----
Per Prescription			
Total Spending	$40	$41	4%
Out-of-Pocket Costs	13	15	11
Note: A "-----" means not available.			

HOW DO PRESCRIPTION DRUG EXPENDITURES DIFFER BY AGE AND SEX?

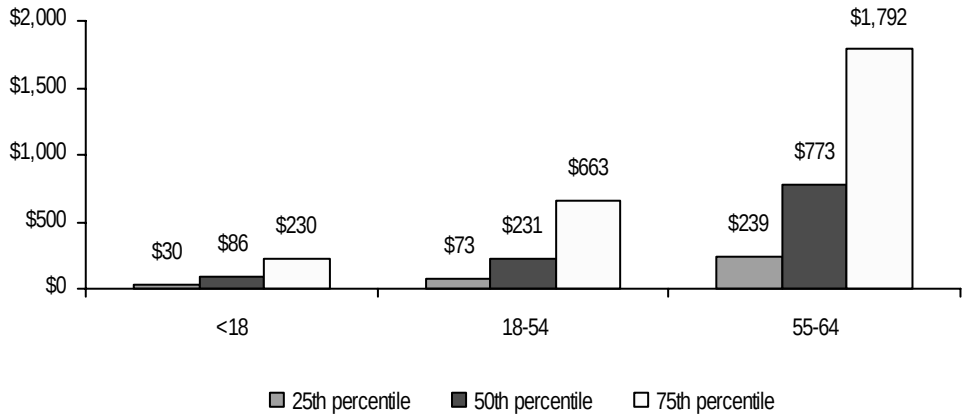
Spending on prescription drugs in 2003 varied by both age and sex. As noted in Figure 2-1, which presents 2003 expenditures by age, total expenditures per user increased substantially with age. Compared to children aged 1 to 17, expenditures for persons in the 55 to 64 age group were eight to 10 times higher. Spending was slightly higher for male children than for female children, but this pattern changed with adulthood, where spending was somewhat higher for females. The largest gender difference was noted in young adults, aged 18 to 34, where median spending for females was approximately twice as high as that for males ($203 versus $102).

Figure 2-1: Median Annual per-User Prescription Drug Expenditures, by Age and Sex, 2003



Data further describing the relationship between per-user expenditures and age are presented in Figure 2-2. This figure shows how per-user drug expenditures are distributed for three age groups: children less than 18 years of age, adults ages 18 to 54, and adults 55 to 64 years of age. The spending figures presented refer to the amount spent for persons at the 25th, 50th, and 75th percentiles of spending. For persons between the ages of 55 and 64, prescription drug spending at the 25th percentile was $239. This figure is just over three times higher than expenditures for adults ages 18 to 54 ($73) and about eight times higher than the amount spent on children ($30) in the 25th percentile of spending for their age groups. At the other extreme, the drug expenditure for persons aged 55 to 64 at the 75th percentile was about $1,792, an amount that is nearly three times higher than that for persons aged 18 to 54 ($663) and almost eight times higher than that of children ($230) in the 75th percentile of spending for their age groups.

Figure 2-2: Annual per-User Prescription Drug Expenditures by Age for 25th, 50th, and 75th Percentiles, 2003



HOW IS DRUG SPENDING DISTRIBUTED IN THE POPULATION?

Previous studies have shown that medical care spending tends to be highly skewed, with a relatively small proportion of users accounting for a large proportion of expenditures.[10] This skewed distribution has been shown to hold over time and for prescription drug spending as well as medical services overall. For this analysis, prescription drug users were ranked by total expenditures to determine how expenditures were distributed across the insured, nonelderly population. Prescription drug spending in Maryland conforms to the expected pattern, with a relatively small number of users with high expenditures and a large number of users with small expenditures (Table 2-2). Among individuals of all ages, persons in the top 1 percent of drug use accounted for 17 percent of all prescription drug expenditures, with an average of $11,539 per user. Those in the top 20 percent had an average of $2,473 and accounted for 75 percent of aggregate expenditures. The bottom 50 percent of prescription drug users incurred only 6 percent of aggregate drug expenditures, with an average of $74 per user. Among persons aged 55 to 64, spending was still quite skewed, though slightly less so than for all nonelderly. As expected, average spending per user was higher among the older population, most noticeably for the bottom 50 percent, whose average expenditure was almost three times higher than for the comparable segment of the population as a whole. Persons in the top 20 percent of the older age group accounted for 61 percent of the group's aggregate costs, with an average of $4,217 in drug spending per user.

Table 2-2: Distribution of Prescription Drug Expenditures, 2003

USERS*	ALL AGES		AGE 55-64	
	Percent of All Spending	Average ($)	Percent of 55-64 Spending	Average ($)
Top 1 percent	17%	$11,539	10%	$14,519
Top 5 percent	41	5,405	28	7,721
Top 20 percent	75	2,473	61	4,217
Top 50 percent	94	1,253	90	2,490
Bottom 50 percent	6	74	10	288
Note: *Ranked by total expenditures.				

[10] See Berk, M, Monheit, A, and Hagan, M, "How the U.S. Spends Its Health Care Dollar: 1929-1980," *Health Affairs* 7 (1988); Berk, M, and Monheit, A, "The Concentration of Health Expenditures: An Update," *Health Affairs* 11, 4 (1992); and Berk, ML, and Monheit, AC, The Concentration of Health Care Expenditures, Revisited. *Health Affairs*. 2001; 20(2):9-18.

HOW DO SPENDING PATTERNS DIFFER BY TYPE OF INSURANCE COVERAGE?

Even within the privately insured market, spending patterns vary by coverage type (Table 2-3). Median spending in 2003 was lowest among those with individually purchased products ($191) and highest for public employees ($253).[11] Relative spending reflects, at least in part, the less-generous drug benefits provided in the individual market versus those offered through State and local government.

Table 2-3: Median Annual per-User Prescription Drug Expenditures, by Coverage Type, 2002-2003

COVERAGE TYPE*	2002	2003	PERCENT (%) CHANGE
Individual market	$215	$191	-11%
Private, large group	210	214	2
Public	253	253	---
CSHBP (Small group)	224	233	4

Note: A "-----" means not available. * Public coverage includes Federal, State, county, local/municipal, and public school employees. Small-group coverage refers to the Comprehensive Standard Health Benefit Plan that is limited to firms with 1-50 employees and the self-employed.

The overall 5 percent increase in median spending per user between 2002 and 2003 (Table 2-1) was driven by increases in expenditures for those with private, large-group coverage (2 percent) and small-group coverage (4 percent) through the Comprehensive Standard Health Benefit Plan (CSHBP). No changes were noted among public employees, but for users in the individual market, median expenditures decreased by about 11 percent.

The reasons expenditures declined so markedly in the individual market are not entirely clear, but could be related to the establishment of the Maryland Health Insurance Plan (MHIP) in 2002.[12] The MHIP is a State-administered plan available to residents who are ineligible for publicly sponsored or group health insurance and who, due to the presence of a chronic illness or pre-existing condition, have either been refused health insurance

[11] As noted in the introduction, the Prescription Drug Component of the MCDB does not include drug spending by State employees and their dependents because the State contracts directly with a prescription benefit manager for drug benefits.

[12] Health Insurance Safety Net Act of 2002, the statute that created MHIP, is found in the Insurance Article §14-501 and subsequent sections.

or been offered insurance with limited coverage. If the subset of residents who purchased insurance in 2002 through the individual market but chose to join the MHIP in 2003 are sicker or more chronically ill than others in the individual market, a decline in per-user prescription drug expenditures among those remaining in the market is to be expected. Evidence suggesting that, in fact, the subset of persons who had individual coverage in 2002 may be sicker than those who had individual coverage in 2003 is found in the observation that the 75th percentile of annual per-person expenditures among those in the individual market was $702 in 2002, but only $572 in 2003.

That the benefit structure in the individual market is less generous than in the group market is borne out by the data presented in Table 2-4. Persons covered through the individual market paid about two-thirds of their prescription drug expenditures out of pocket in 2003. In comparison, individuals in the small-group market paid for about 43 percent of their prescription drug expenditures out of pocket. Those covered through the large-group market and public employees paid for about one-third of their prescription drug expenditures out of pocket.

Table 2-4: Median Share of Annual per-User Prescription Drug Expenditures Paid Out of Pocket, by Coverage Type, 2002-2003

COVERAGE TYPE*	2002	2003	PERCENT (%) CHANGE
Individual market	62%	66%	7%
Private, large group	31	33	7
Public	32	33	3
CSHBP (Small group)	43	43	-----

Note: A "-----" means not available. * Public coverage includes Federal, State, county, local/municipal, and public school employees. Small-group coverage refers to the Comprehensive Standard Health Benefit Plan that is limited to firms with 1-50 employees and the self-employed.

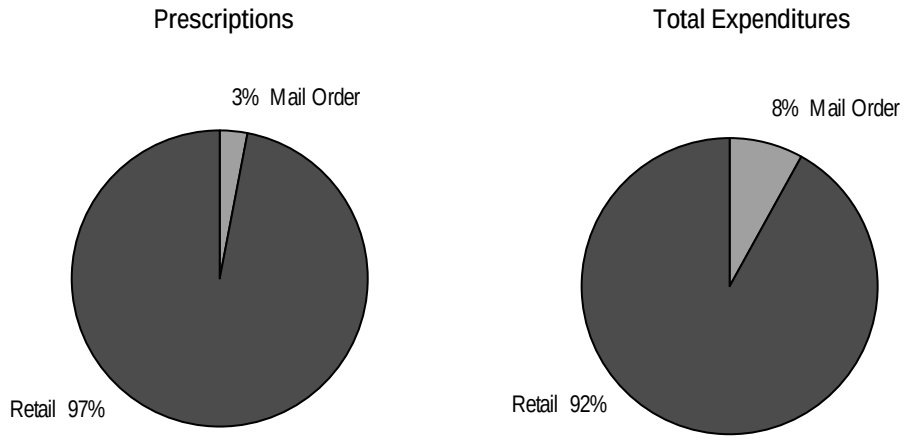
With the exception of persons with small-group coverage, the percentage of expenditures paid out of pocket increased slightly between 2002 and 2003. The largest change was in the individual and large-group markets, where the share of expenditures that were paid out of pocket increased by almost 7 percent.

TRENDS IN THE PRESCRIPTION DRUG MARKET

WHAT PROPORTION OF PRESCRIPTIONS ARE FILLED BY MAIL-ORDER PHARMACIES?

The Maryland prescription drug market continues to be dominated by retail sales; in 2003, only 3 percent of prescriptions were dispensed by a mail-order pharmacy (Figure 2-3). Some estimates place the mail-order share nationally much higher. In many States, insurance carriers can mandate enrollees to obtain maintenance drugs via mail order. In Maryland and several other States, carriers must impose uniform cost-sharing arrangements on prescriptions filled at community and mail-order pharmacies. This provision prevents carriers from establishing incentives for enrollees to obtain 90-day supplies via mail-order pharmacies, perhaps explaining the lower reliance on mail-order pharmacies.[13] However, this provision applies only to insurance products governed by Maryland insurance law.[14] Some large public employers comply with this mandate; the State Employee and Retirement Health and Welfare Plan, a self-insured product, currently does not offer a mail-order option on the prescription drug benefit.

Figure 2-3: Percent of Prescriptions and Total Expenditures that are Mail Order and Retail, 2003



[13] Senate Bill 885, 'Maintenance Drug Mail Order Purchase – Study,' would require the Maryland Insurance Administration and the MHCC, in consultation with the Board of Pharmacy, to study the utilization, cost savings, financial impact on retail pharmacies, and convenience of mail-order service for purchasing maintenance drugs. A report is due by December 2005.

[14] Insurance Articles §15-824 and §15-805(d)(2), Annotated Code of Maryland. The latter states that fully insured products may not impose co-payments, deductibles, or other conditions on services obtained through retail pharmacies that are not imposed when the insured uses mail order.

Spending on mail-order prescriptions accounted for a small (8 percent) but disproportionate share of total pharmaceutical drug expenditures relative to the number of prescriptions dispensed. One factor explaining this is the quantity dispensed per prescription (data not shown). Approximately 88 percent of mail-order prescriptions, compared to only 9 percent of retail prescriptions, were for a 90-day supply of drugs. The average payment for a mail-order prescription in 2003 was almost three times the average paid for prescriptions purchased through retail pharmacies ($177 versus $65). The average price paid for a one-day supply was equivalent for retail and mail-order pharmacies ($2.19 for retail and $2.16 for mail order), indicating that the difference in the average amount paid per prescription from retail versus mail order — and hence the disproportionate share of spending for mail order — is due to a difference in the average quantity of medication dispensed. However, the apparent similarity in price per one-day supply does not necessarily imply that drug prices at mail-order pharmacies and retail pharmacies are equivalent. Differences in the mix of drugs supplied through mail-order and retail pharmacies could have resulted in similar average prices for a one-day supply in spite of price differences for the same drugs. A study conducted by the U.S. General Accountability Office in 2003 found mail-order prices were lower on average for 14 branded and four generic drugs.[15] MHCC did not examine the mix of drugs supplied or prices for the same drugs from retail and mail-order pharmacies.

Between 2002 and 2003, growth in spending on mail-order prescriptions (30 percent) outpaced growth in spending on retail prescriptions (10 percent) by a margin of three to one (Figure 2-4).[16] This growth in mail-order pharmacy expenditures was fueled by both growth in the number of prescriptions and increases in the average prescription price. Between 2002 and 2003, the number of prescriptions filled by mail order increased at a much faster rate (17 percent) than the number filled by retail pharmacies (2 percent). During the same time, average payment for a one-day supply grew twice as fast in mail-order prescriptions compared to retail prescriptions (12 percent versus 7 percent). The higher rate of growth in mail order closed the gap between mail-order and retail prescriptions in the cost of a one-day supply.

Aggregate cost sharing increased for both retail and mail-order sales. Between 2002 and 2003, total out-of-pocket expenditures increased by 36 percent for mail-order

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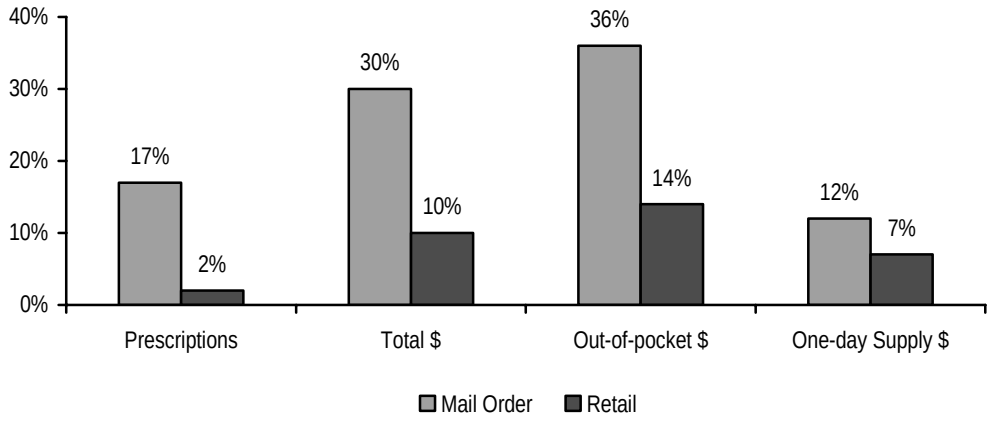
[15] The 2003 U.S. General Accounting Office study of the Federal employee benefits plan found that prices negotiated for drugs by a pharmacy benefit manager from retail pharmacies were about 18 percent below the average cash price for 14 selected brand name drugs, while the average mail-order price was about 27 percent below the cash price for the same drugs. Pharmacy benefit managers negotiated prices on four generic drugs on average that were 47 percent below the cash price from retail pharmacies and 53 percent below for mail-order pharmacies. *Federal Employees' Health Benefits: Effects of Using Pharmacy Benefit Managers on Health Plans, Enrollees, and Pharmacies* (GAO-03-196 January 10, 2003).

[16] The mail-order/retail analysis was conducted on a subset of the data; the growth in spending for this subset was somewhat higher than the overall 8% increase reported earlier.

prescriptions and 14 percent for retail prescriptions, compared to overall expenditure increases for drugs from these outlets of 30 percent and 10 percent, respectively (Figure 2-4).

Figure 2-4: Percent Change in Prescriptions and Expenditures for Mail Order and Retail, 2002-2003

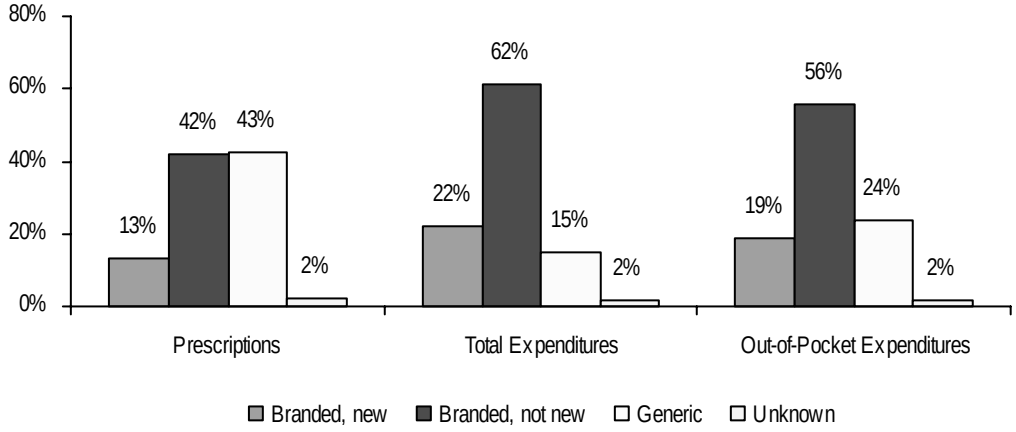


WHAT PROPORTION OF PRESCRIPTIONS ARE GENERIC VERSUS BRANDED DRUGS?

For some time, insurers and pharmacy benefit managers have been encouraging the use of generic drugs in order to slow prescription drug cost increases. Use of three-tiered benefit structures — where consumer copayments are lowest for generics, higher for "preferred" brand-name drugs, and highest for nonpreferred brands — are widespread. Recently, a number of pharmacy benefit managers (PBMs) have introduced step-therapy programs that promote use of lower-cost drugs before consumers try higher-cost medicines; often the initial prescription is a lower-cost generic alternative.

The distributions of prescriptions and total and out-of-pocket expenditures for generic, new branded (those approved by the FDA between 2000 and 2003) and older branded (those approved prior to 2000) prescription drugs are presented in Figure 2-5. Generic and older branded drugs accounted for equal proportions (42 percent) of all prescriptions dispensed in 2003. New branded drugs accounted for only 13 percent of all prescriptions. Despite the fact that generic drugs accounted for over 40 percent of dispensed prescriptions, only about one in seven pharmaceutical dollars (15 percent of total expenditures) was spent on generic drugs.

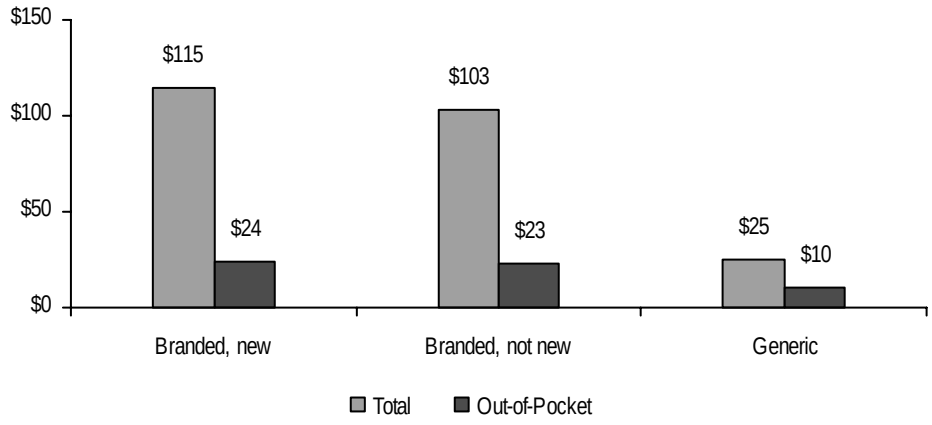
Figure 2-5: Distribution of Prescriptions and Expenditures, Branded and Generic Drugs, 2003



Note: "Branded, new" includes those drugs approved by the FDA between 2000 and 2003.

Three-quarters of insured consumers' aggregate out-of-pocket liability for prescription drugs was associated with branded products (both new and older); only 24 percent was associated with generic drugs. Together with the observation that generic drugs account for only 15 percent of total expenditures, however, these findings indicate that insurers cover a lower percentage of the expenditures for generic drugs. This is further demonstrated in Figure 2-6. While an average of $115 per prescription was spent on

Figure 2-6: Mean Total and Out-of-Pocket Expenditures per Prescription, by Branded vs. Generic, 2003



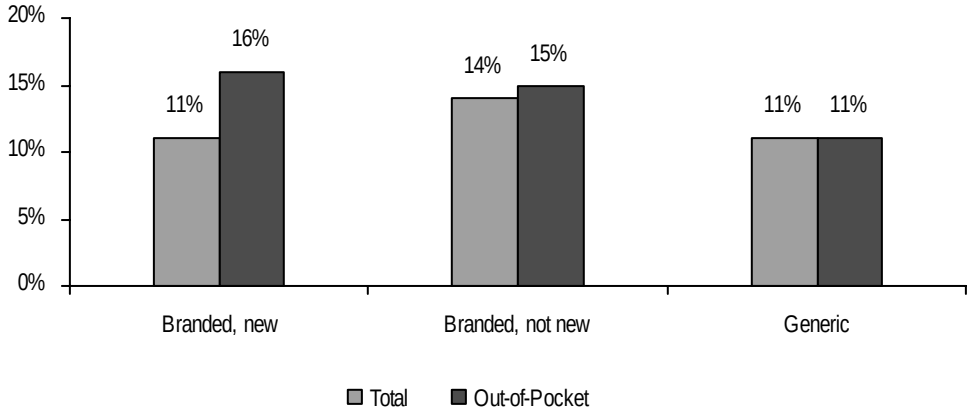
Note: "Branded, new" includes those drugs approved by the FDA between 2000 and 2003.

new branded drugs, consumers paid about $24 of this amount — almost 21 percent — out of pocket. The average out-of-pocket share for the average older branded drug prescription (22 percent) was similar, but 40 percent of the average generic drug

prescription was paid directly by consumers. In terms of absolute dollars, however, patient liability for the average generic was lower than that required for the average branded drug ($10 versus $23-24); this is one element of insurers' strategies for encouraging patients to purchase generic drugs when they are available.

During 2002-2003, the average cost per prescription increased for both branded and generic drugs (Figure 2-7). Although comparable rates of increase were observed for generic and new branded drugs (about 11 percent), the increase was somewhat higher for older branded drugs (14 percent). Out-of-pocket spending per prescription rose, on average, between 15 percent and 16 percent for both new and older branded drugs, outpacing growth in the average total expenditure per prescription for these categories. By contrast, out-of-pocket spending per generic prescription grew at the same rate as total expenditures per generic prescription (11 percent).

Figure 2-7: Percent Change in Mean Total and Out-of-Pocket Expenditures per Prescription by Branded vs. Generic, 2002-2003



Note: "Branded, new" includes those drugs approved by the FDA between 2000 and 2003.

3. Trends in Use of COX-2 Inhibitors and Antidepressant Use in Children

This section of the report explores in more depth the use of two particular classes of prescription drugs: non-steroidal anti-inflammatory drugs (NSAIDs) and antidepressants. The examination of NSAIDs captures the nonelderly adult population and focuses in particular on the use and associated expenditures for COX-2 inhibitors, a special subgroup of NSAIDs. As described below, use of COX-2 inhibitors has grown rapidly and, recently, there has been clinical evidence questioning the safety of these drugs.

Use of antidepressants among children is also described. A subgroup of antidepressants — Selective Serotonin Reuptake Inhibitors, or SSRIs — are given particular attention because of their overall influence in the rising use of this class of medicines among children. Also with antidepressants, recent increases in use have been accompanied by adverse clinical outcomes. In this case, there is evidence that children treated with antidepressants may be at increased risk for suicidal thinking and behavior.

Patterns of use and expenditures for both classes of drugs are examined. Trends from 2001 to 2003 in the number of users, expenditures per user, and expenditures per medicated day are reported separately for COX-2 inhibitors, other NSAIDs, SSRIs, and other antidepressants. The mix of drugs by generic versus branded status is also described. These data provide a baseline for future study of the use of these drugs.

A Closer Look at Trends for Specific Drugs: COX-2 Inhibitors and Other Non-Steroidal Anti-inflammatory Drugs (NSAIDs)

Use of NSAIDs[17] increased rapidly over the course of the past decade. Nationwide, the use of NSAIDs — pharmaceuticals that are used to reduce pain and inflammation —

[17] These include drugs such as ibuprofen, naproxen, Vioxx, Celebrex, and Bextra.

increased from an estimated 20 drugs/100 persons in 1995-1996 to 27 drugs/100 persons in 2001-2002, an increase of 35 percent.[18] In Maryland, a 2002 MHCC study found that 20 percent of persons between the ages of 6 and 64 in the 2000 MCDB had filled a prescription for an NSAID.[19]

COX-2 inhibitors are a special subgroup of NSAIDs that are marketed for their protection against side effects common to most NSAIDs, in particular gastrointestinal bleeding. Use of COX-2 inhibitors has grown dramatically since their introduction in 1999. Data from the National Center for Health Statistics indicates that in 2001-2002 over one-half of adult outpatient visits in which an NSAID was prescribed or provided involved a COX-2 inhibitor. In the elderly population, this figure was even higher: two-thirds of NSAID visits were associated with receipt of a COX-2 inhibitor drug. Rapid growth in the use of COX-2 inhibitors has also been observed in Maryland. An MHCC study found that between 1999 and 2000 the number of nonelderly persons who received a prescription for a COX-2 inhibitor nearly doubled.[16]

To a large extent, the rapid growth in the use of COX-2 inhibitors has been fueled by drug manufacturers' marketing strategies that used direct-to-consumer advertising to promote COX-2 inhibitors as "breakthrough" drugs without many of the adverse side effects associated with older NSAIDS. Direct-to-consumer marketing not only contributed to their widespread use; it also led to the overuse of these drugs, according to some analysts who contend that the older NSAIDS were as effective and posed no greater risk of bleeding to most of the user population. A recent study of the use of COX-2 inhibitors found that 63 percent of the growth in the use of COX-2 inhibitors from 1999 to 2002 was accounted for by patients in whom other NSAIDS could have been used.[20]

In recent months, evidence questioning the safety of COX-2 inhibitors caused the FDA to take action to increase public awareness and strengthen monitoring of these drugs. In the case of COX-2 inhibitors, the FDA issued a public health advisory to warn consumers about the increased risk of heart attack and stroke associated with Vioxx, one brand of COX-2 inhibitor. This action quickly led to the voluntary withdrawal of this drug from the market in September 2004. Even more recently, in April 2005, the FDA has taken additional steps with respect to NSAIDs, including a request for the

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[18] National Center for Health Statistics. Health, United States, 2004: With Chartbook on Trends in the Health of Americans. Hyattsville, Maryland: 2004.
[19] Maryland Health Care Commission (MHCC). *Spotlight on Maryland: "Higher Prices and Increased Use Fuel Higher Pharmaceutical Spending."* Baltimore, MD: MHCC, June 2002. http://www.mhcc.state.md.us/spotlight/pharm0602.pdf. (Accessed 3/22/05).
[20] Dai et al., National Trends in Cyclooxygenase-2 Inhibitor Use Since Market Release: Nonselective Diffusion of a Selectively Cost-effective Innovation. *Archives of Internal Medicine*, 2005; 165:171-177.

withdrawal of an additional COX-2 inhibitor (Bextra) from the market; a request to include a boxed warning highlighting the potential for increased risk of cardiovascular events and gastrointestinal bleeding on another COX-2 inhibitor (Celebrex) and all other prescription NSAIDs; and a request for manufacturers of over-the-counter NSAIDs to include more information on the potential risks associated with their use.[21] The FDA announcement notes that "these actions are based on the available scientific data, including data accumulated since the drugs were approved."

As previously stated, the purpose of this report is to develop baseline data that may be used to monitor the use of prescription drugs in the State. Given the many concerns about the safety of COX-2 inhibitors, it is also important to track trends in utilization of these particular drugs. These data provide important baseline information to assess how physicians and consumers respond to these safety concerns.

In 2003, about 22 percent of nonelderly adults represented in the pharmacy database were treated with an NSAID (either a COX-2 inhibitor or another NSAID), much the same as in 2001. Between 2001 and 2003 the proportion of NSAID users who were taking a COX-2 inhibitor (20 percent, calculated from data in Table 3-1) remained unchanged, in contrast to increased market share among NSAID users in prior years. It is not possible to determine whether use of COX-2 inhibitors simply stabilized during this period or if early reports about the risks associated with COX-2 inhibitors held down use in the Maryland population in 2003.

Table 3-1: Use and Expenditure for COX-2 Inhibitors and Other NSAIDs Among Nonelderly Adults, 2001-2003

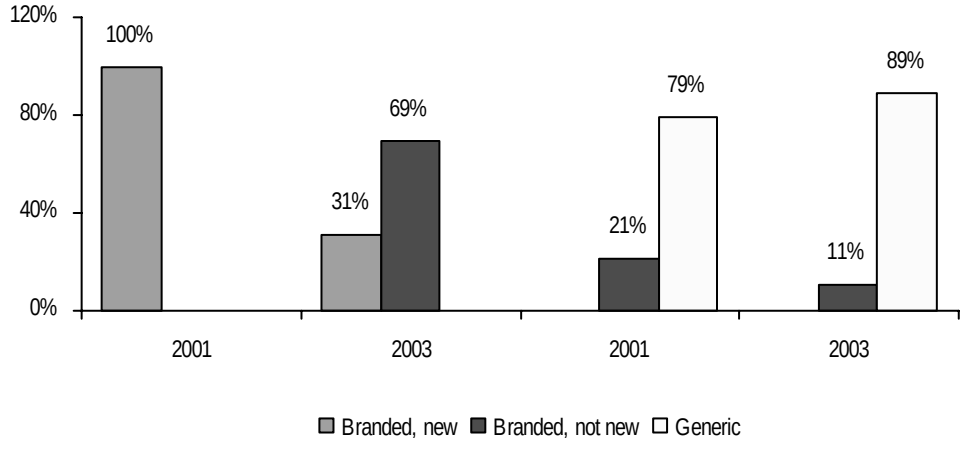
EXPENDITURES	2001	2003	CHANGE (%) 2001-2003
COX-2 Inhibitors			
Number of users	44,241	44,386	<1%
Total per user	$254	$335	32
Per medicated day	$2.57	$3.26	27
Other NSAIDs			
Number of users	188,071	186,968	-1%
Total per user	$35	$36	3
Per medicated day	$0.77	$1.00	30

[21] "FDA Announces Series of Changes to the Class of Marketed Non-Steroidal Anti-Inflammatory Drugs (NSAIDs)" in *FDA News*, April 7, 2005. http://www.fda.gov/bbs/topics/news/2005/NEW01171.html (Accessed on April 9, 2005)

Estimates from the data base indicate that expenditures associated with treatment using a COX-2 inhibitor were substantially higher than for treatment with other NSAIDs (Table 3-1). Total expenditures per patient averaged $335 for COX-2 inhibitors compared to only $36 per patient for other NSAIDs, a more than ninefold difference. Measured in terms of expenditures per medicated day, the average expenditure for COX-2 inhibitors in 2003 was over three times higher than that for other NSAIDS ($3.26 versus $1.00). Given the growing body of evidence indicating that many persons taking COX-2 inhibitors could be effectively treated with another NSAID, these data suggest that significant cost savings could accrue if persons who are taking a COX-2 inhibitor and who are not at risk for developing gastrointestinal problems were to switch to another NSAID.

The higher expense associated with COX-2 inhibitors as compared to other NSAIDs is due at least in part to the fact that *all* of the COX-2 inhibitors available in 2001-2003 were branded drugs, while the vast majority of the other NSAIDs were generic. The change in mix is shown in Figure 3-1. In 2001, new branded drugs — defined as those that received FDA approval between 1998 and 2001 — accounted for 100 percent of COX-2 inhibitors; in 2003, 31 percent of COX-2 inhibitors had changed classification to old branded, meaning they had been approved by the FDA in either 1998 or 1999. For other NSAIDs, the change was from old branded to generic status. The proportion of these prescriptions that were generic increased from 79 percent to 89 percent in this time period.

Figure 3-1: Percent of COX-2 Inhibitors and Other NSAID Prescriptions that are Branded and Generic, 2003



Note: In 2001, new branded drugs were those that received FDA approval between 1998 and 2001; in 2003, new branded drugs were those that were approved between 2000 and 2003. Categories of branded or generic drugs with values of zero percent are not shown.

The ratio of total expenditures per user to per diem spending indicates that, on average, persons taking COX-2 inhibitors used them for approximately 103 days, while in contrast, persons taking other NSAIDs used them for an average of only 36 days (calculated from data in Table 3-1). The nearly threefold difference in length of use suggests that persons taking COX-2 inhibitors may be using these drugs for treatment of a long-term or chronic problem, whereas those taking other NSAIDs are more likely to be treating an acute medical condition. If this is indeed the case, then the switching of patients from a COX-2 inhibitor to an NSAID would be expected to produce significant long-term savings.

USE OF AND EXPENDITURES ON ANTIDEPRESSANTS AMONG CHILDREN

Dramatic growth has also occurred in the use of another class of drug: antidepressants. Among children over the age of five, the annual number of outpatient visits nationwide in which an antidepressant was prescribed or provided increased almost threefold, from 1.1 million in 1994-1996 to 3.1 million in 2000-2002. The national antidepressant visit rate increased from 2.2 visits/100 children to 5.9 visits /100 children during this period.[22]

Studies have indicated that the marked increase in antidepressant use in children has been driven by a rapid rise in the use of a newer group of antidepressants: SSRIs.[23] In 1994-1996, approximately 43 percent of visits made by children between the ages of five and 17 where an antidepressant was ordered were associated with the prescription of an SSRI. By 2000-2002, this figure had increased to 67 percent.

Evidence that children treated with antidepressants may be at increased risk for suicidal thinking and behavior caused the FDA, in October 2004, to require manufacturers to label these drugs with a "black box" that warns consumers about the risks of antidepressants in children.[24] While the data presented here were collected prior to widespread concerns about the safety of antidepressant use in children, given these

[22] Centers for Disease Control and Prevention, National Center for Health Statistics, National Ambulatory Medical Care Survey and National Hospital Ambulatory Medical Care Survey.
[23] Delate, T, Gelenberg, AJ, Valarie, AS, Motheral, BR, Trends in the Use of Antidepressants in a National Sample of Commercially Insured Pediatric Patients, 1998 to 2002. Psychiatric Services 2004; 55:387-391.
[24] The risk of suicidality for these drugs was identified in a combined analysis of short-term (up to four months) placebo-controlled trials of nine antidepressant drugs, including the SSRIs and others, in children and adolescents with major depressive disorder, obsessive compulsive disorder, or other psychiatric disorders. http://www.fda.gov/cder/drug/antidepressants/SSRIPHA200410.htm (Accessed 3/22/05)

concerns and the recent FDA action, these data provide important baseline information to assess how physicians and consumers respond.

Of all children represented in the prescription drug database, approximately 3 percent used an antidepressant in 2003; for adolescents ages 10 to 17, this proportion was 7 percent (data not shown).[25] Between 2001 and 2003, the number of children using SSRIs increased by 8 percent for those less than 10 years of age and by 26 percent for those ages 10 to 17 (Table 3-2). In the younger age group, the number using other antidepressants fell in that two-year period but increased by 14 percent for the adolescent group.

Expenditures for children taking SSRIs — both per user and per diem expenditures — were higher than those for children taking other antidepressants (Table 3-2). Among children under the age of 10, expenditures per user for SSRIs were 58 percent higher than for the same group of children who take other antidepressants, while among children aged 10 to 17, expenditures per user for SSRIs were 17 percent higher than those of their counterparts taking other types of antidepressants (calculated from data in Table
3-2).

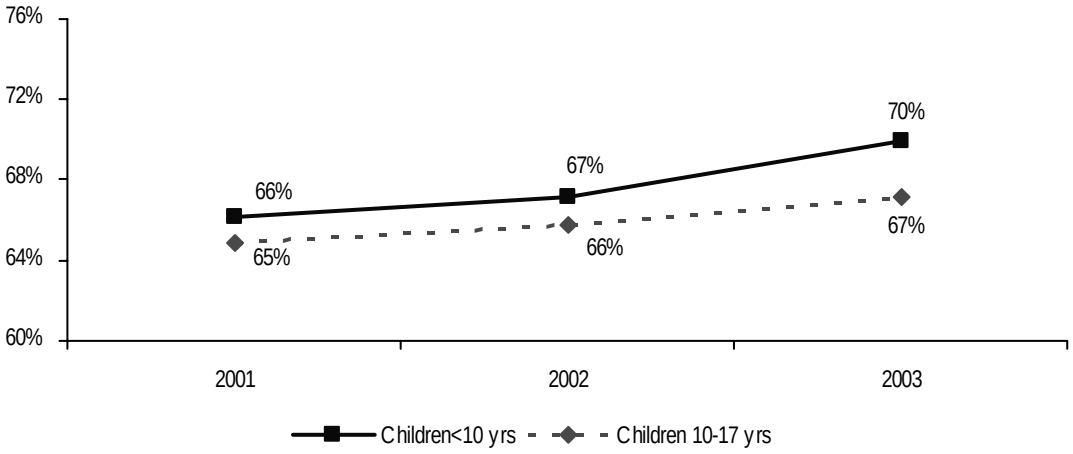
Table 3-2: Use and Expenditures for SSRIs and Other Antidepressants Among Children (Age<10 and 10 to 17), 2001-2003

EXPENDITURES	2003		CHANGE 2001-2003	
SSRIs	<10	10-17	<10	10-17
Number of users	978	7,559	8%	26%
Total per user	$320	$410	-4	-2
Per medicated day	$2.25	$2.57	-6	-4
Other Antidepressants	<10	10-17	<10	10-17
Number of users	422	3,693	-9%	14%
Total per user	$203	$352	30	43
Per medicated day	$1.72	$2.44	45	39
Note: An individual is included in the number of users if there was at least one claim for that person for either SSRIs or other antidepressants in the data base. Persons could be counted in both categories.				

[25] This analysis includes all drugs classified as antidepressants according to the Multum Drug Lexicon. Among the antidepressants, only Prozac is approved for use in treating major depressive disorder in pediatric patients. Prozac, Zoloft, Luvox, and Anafranil are approved for obsessive-compulsive disorder in pediatric patients. None of the drugs is approved for other psychiatric indications in children. Most of the drugs identified are being prescribed off-label. The analysis does not include other classes of drugs — such as mood stabilizers — used to treat related behavioral disorders.

Among those treated with an antidepressant in 2003, approximately two-thirds of children aged 10 to 17 received an SSRI; the SSRI share among children under 10 was slightly higher. For both age groups, the use of SSRIs as a percentage of all antidepressants increased modestly between 2001 and 2003 (Figure 3-2).

Figure 3-2: Percent of Children on an Antidepressant who were Treated with an SSRI, 2001-2003



There are a substantial proportion of children using more than one drug from one or both of these categories (Figure 3-3).[26] In 2003, 49 percent of children using an antidepressant were prescribed two or more SSRIs. Eight percent of children less than 10 years old and 14 percent of children 10 to 17 years old were prescribed at least one SSRI and at least one other antidepressant. These proportions changed little between 2002 and 2003.

Some of the expenditure differences between users of SSRIs and users of other antidepressants have to do with the mix of branded versus generic drugs used. The prescriptions of SSRI users tend to be dominated by older branded drugs (those approved prior to 2000), with over 60 percent of prescriptions in both age groups falling into this category (Figure 3-4). For SSRI users, generic drugs constituted only 21 percent of prescriptions for children less than 10 and 18 percent of prescriptions for children 10 to 17. The picture is somewhat different for other antidepressants, where generics play a more significant role, accounting for 50 percent and 33 percent, respectively, of prescriptions for the two age groups.

[26] Some proportion of this use may be sequential use of multiple drugs rather than simultaneous use. In other words, because antidepressants often have side effects or vary in effectiveness across individuals, it is not unusual to identify the "best" drug through trial and error. This would show up in these estimates as use of more than one drug.

Figure 3-3: Use of Multiple Antidepressants Among Children, 2003

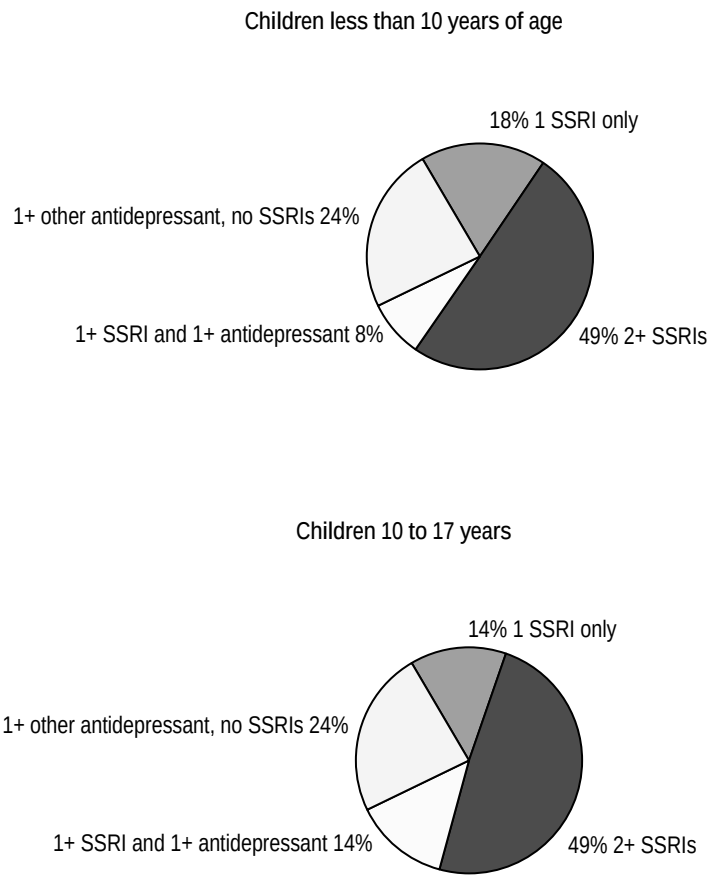
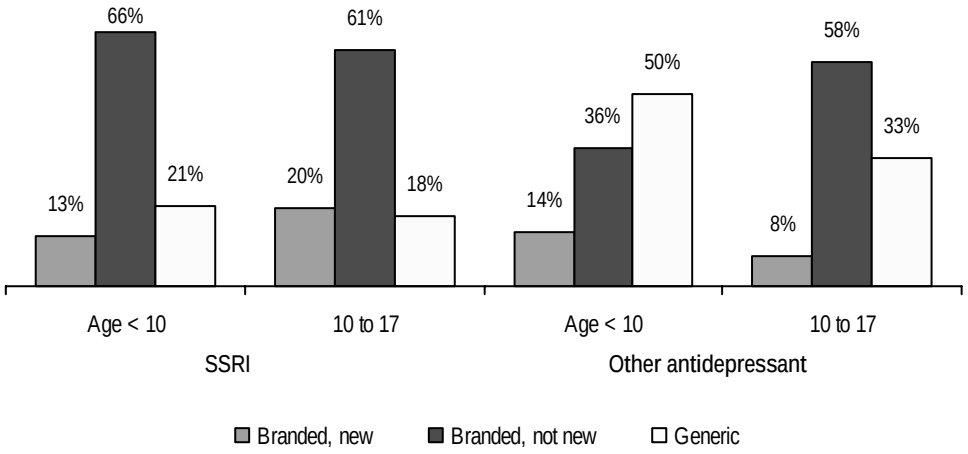


Figure 3-4: Distribution of Prescriptions for SSRI and Other Antidepressant Users, Branded and Generic Drugs, 2003



Patterns of change in expenditures between 2001 and 2003 differ substantially depending on whether an SSRI or other antidepressant was used. For instance, between 2001 and 2003, per-user expenditures and per diem spending for SSRIs fell for children in both age groups. Among those taking other antidepressants, however, per-user expenditures and per diem spending increased quite substantially. Expenditures per user rose 30 percent in the younger age group and 43 percent in the 10 to 17 age group, while spending per medicated day rose 45 percent and 39 percent, respectively.

There have been a number of recent changes in the market for both SSRIs and other antidepressants, with certain drugs moving from branded to generic status and other, new branded drugs entering the market.[27] Changes in the types of drugs available resulted in marked changes in the mix of generic versus branded drugs among users of either SSRIs or other antidepressants between 2001 and 2003 (some data not shown). In terms of SSRIs, the new branded proportion of antidepressant prescriptions fell substantially among children less than 10 (36 percent), but rose by 16 percent in the 10 to 17 age group; in both age groups, the generic proportion of SSRIs doubled (from 10 percent to 21 percent of prescriptions for the younger group and from 9 percent to 18 percent of prescriptions for the older group.)

For other antidepressants, use of new branded drugs — while representing a small proportion of all prescriptions — increased dramatically. In the 10 to 17 age group, use of new branded drugs went from less than 1 percent to 8 percent of all prescriptions in the two-year period; for the younger group, that proportion increased from 1 percent to 14 percent of prescriptions.

[27] A number of antidepressants lost their patent protection in 2001 or 2002, including Prozac, Luvox, Serzone, Remeron, and Sinequon. Both Paxil and Celexa went off-patent in 2003, so that price decreases would be unlikely to be seen in these data. There were also drugs that entered the market during this time period (e.g., Paxil CR — a controlled-release formula and Wellbutrin SR — for sustained release).

4. Summary and Conclusions

Prescription drug spending in Maryland is a substantial component of overall health care expenditures. Recent expansion of the Medical Care Data Base to include information on insured prescription drug services now supports monitoring of utilization and spending trends. This section of the report briefly lists the main findings of this analysis of prescription drug use and expenditures among privately insured, nonelderly persons in Maryland.

- In 2003, the median annual expenditure per user for prescription drugs was $204.
  - The bottom quarter of prescription drug users had drug expenditures totaling less than $62 annually, whereas the top quarter had expenditures of $650 or more.
  - Expenditures per user increased with age: compared to children one to 17, expenditures for persons in the 55 to 64 age group were eight to 10 times higher.
  - The largest relative spending increases between 2002 and 2003 were in out-of-pocket spending—both per user (13 percent) and per prescription (11 percent).

- The distribution of prescription drug spending in Maryland is similar to that for all health care spending nationally, with a relatively small number of users with high expenditures and a large number of users with small expenditures.
  - Among all nonelderly prescription drug users, persons in the top 20 percent of drug expenditures accounted for 75 percent of all prescription drug spending.
  - Those in the bottom 50 percent of spending incurred only 6 percent of aggregate drug expenditures.

- The Maryland prescription drug market continues to be dominated by retail sales, with only 3 percent of 2003 prescriptions dispensed by a mail-order pharmacy.
  - Between 2002 and 2003, growth in the number of prescriptions filled by mail order increased at a much faster rate than the number filled by retail pharmacies (17 percent versus 2 percent).
  - In that same period, growth in spending on mail-order prescriptions outpaced growth in spending on retail prescriptions (30 percent compared to 10 percent).

- In 2003, generic drugs accounted for approximately 42 percent of all prescriptions represented in the database, but only 15 percent of drug expenditures.
  - New branded drugs (approved since 2000) were responsible for 13 percent of prescriptions and 22 percent of expenditures. Older branded drugs constituted 42 percent of prescriptions and 61 percent of expenditures.
  - The mean total expenditure per prescription was $115 for a new branded drug, $103 for an older branded drug, and $25 for a generic. Of those amounts, users paid $24, $23, and $10, respectively.
  - Between 2002 and 2003, out-of-pocket expenditures for branded drugs rose between 15 percent and 16 percent, slightly faster than total expenditures.

- Approximately 22 percent of nonelderly adults represented in the data base were treated with an NSAID in 2003, and of these, 20 percent were prescribed a COX-2 inhibitor.
  - Between 2001 and 2003 the proportion of NSAID users taking a COX-2 inhibitor remained unchanged, in contrast to increased market share among NSAID users in prior years.
  - Expenditures associated with use of COX-2 inhibitors were substantially higher than for treatment with other NSAIDs. This is due to higher daily expenditures ($3.26 versus $1.00, in part associated with more brand-name use) as well as longer periods of use (103 days on average versus 36 days).
  - Given the growing body of evidence that many persons taking COX-2 inhibitors could be effectively treated with another NSAID, these data suggest that significant cost savings could be accrued by changes in prescribing.

- Approximately 3 percent of children in the database used an antidepressant in 2003; of these, roughly two-thirds used an SSRI.
  - Between 2001 and 2003, the number of children using SSRIs increased by 8 percent for those less than 10 years of age and by 26 percent for those ages 10 to 17. In the younger age group, the number using other antidepressants fell in that two-year period but increased by 14 percent for the adolescent group.
  - In 2003, approximately 60 percent of children using an antidepressant were prescribed more than one type of drug during the year.

Among children under the age of 10, per user expenditures on SSRIs were 58 percent higher than the same group of children who take other antidepressants, while among children aged 10 to 17 per-user expenditures were 17 percent higher than those of their counterparts taking other types of antidepressants.

Appendix A

Payers Contributing Data to This Report

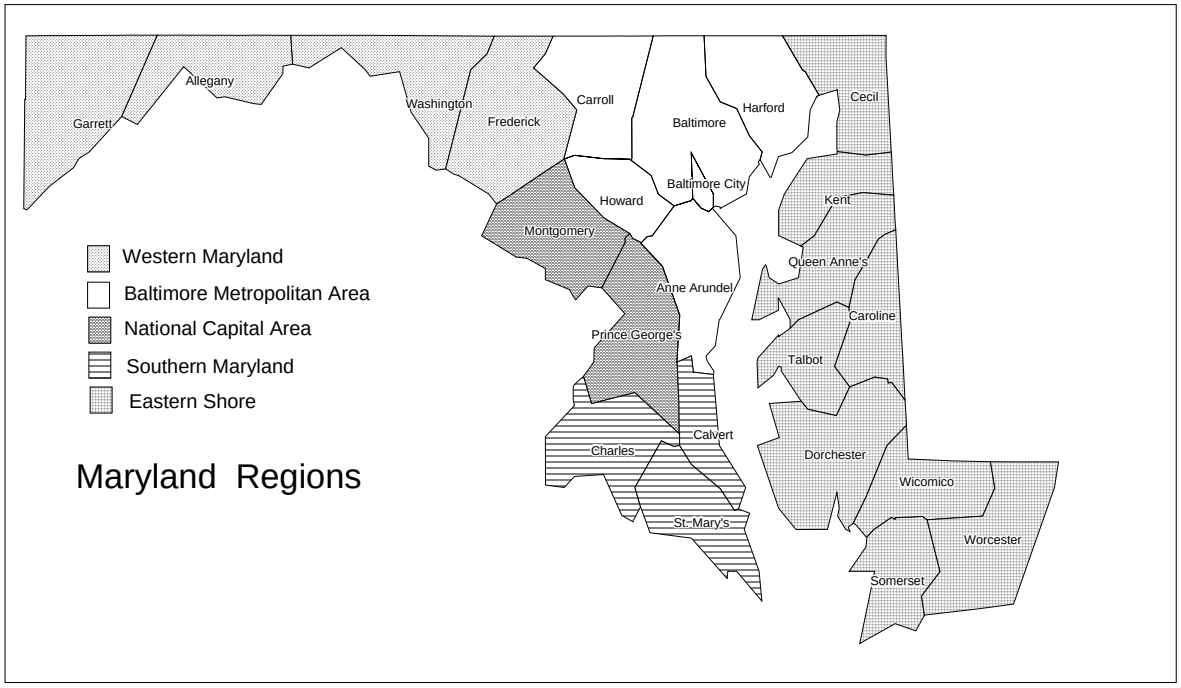
Table A-1: Payers Contributing Data to This Report

PAYER NAME
Aetna Life & Health Insurance Co.
Aetna U.S. Healthcare
American Republic Insurance Co.
CareFirst DC
CareFirst MD
CIGNA Healthcare Mid-Atlantic, Inc.
Fortis Insurance Co.
Graphic Arts Benefit Corporation
Great-West Life & Annuity Insurance Co.
Guardian Life Insurance Co.
Unicare Life & Health Insurance Co.
Kaiser Foundation Health Plan of Mid-Atlantic
MAMSI Life Insurance Co.
Maryland Fidelity Insurance Co.
MD-Individual Practice Association, Inc.
MEGA Life & Health Insurance Co.
Optimum Choice, Inc.
PHN-HMO, Inc.
Coventry Healthcare of Delaware, Inc.
State Farm Mutual Automobile Insurance Co.
United Healthcare Insurance Co.
Trustmark Insurance Co.
Union Labor Life Insurance Co.
United Healthcare of the Mid-Atlantic, Inc.

Appendix B

Map of Maryland Regions

Figure B-1: Map of Maryland Regions



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